

**BROADBAND COMMUNICATION SYSTEMS AND
METHODS USING LOW AND HIGH BANDWIDTH
REQUEST AND BROADCAST LINKS**

ABSTRACT

Broadband data transmission systems and methods that provide point-to-multipoint broadcasting capability to implement Internet access and multimedia distribution services for a very large number of users. An exemplary system comprises a two-way communication link having at least one satellite, at least one user terminal that

5 has two-way communication with the two-way communication link, and at least one gateway that has access to data and has two-way communication with the two-way communication link. The two-way communication link may comprise a low bandwidth two-way communication link, or a low bandwidth request link and high bandwidth data broadcast link. The high bandwidth link preferably broadcasts a wide area coverage

10 beam to allow the requested information to be received by many terminals. The terminal and gateway may each include a cache. Software at the gateway operates to deliver requested data and related data to users using the user's request history and/or user profile. The requested (and related) data (such as a predetermined number of most-requested web pages) may be broadcast at predetermined intervals to simulate real-time

15 broadcasts. Another exemplary system comprises a terrestrial communication link for communicating data requests, a satellite broadcast link for transmitting the requested data, at least one gateway having access to data that communicates with the terrestrial communication link and the satellite broadcast link, and at least one user terminal that communicates with the terrestrial communication link and the satellite broadcast link that

20 caches the requested (and related) data transmitted by the satellite broadcast link. Broadband data transmission methods are also disclosed.